

人工智能专业培养方案

Undergraduate Program of Artificial Intelligence

I. 专业介绍 Introduction

人工智能专业是 2019 年国家首批设立的人工智能专业之一。拥有六位高层次人才在内的一支专业素质好、教学能力强、团结协作、朝气蓬勃的科研和教学团队。近年来承担了包括国家重点研发计划项目、国家科技支撑计划重点和重大项目、国家 863 计划重点项目、国家自然科学基金等国家级、省部项目 40 余项，获得国家科技进步二等奖、四川省科技进步一等奖等奖励，入选科技部重点领域“云服务平台技术创新团队”、“十一五国家重大科技成就展”成果 2 项和“十一五”国家级规划教材和四川省“十二五”普通高等教育本科规划教材各 1 项，并取得了一批重要理论研究成果，在 AI, IEEE TKDE, IEEE TEC 等国际顶级刊物和 ACL, IJCAI, KDD 等国际顶级会议上发表，应邀到国际会议和国内会议做大会报告二十余次，承办十余次国际和国内会议，产生了重要的学术影响。同时，与世界上多所著名大学、企业和研究机构建立了密切的学术交流与合作关系。本专业突出对学生的人工智能开发能力培养和智能素质培养，注重人工智能过程方法训练，使学生具有扎实的基础、合理的知识结构、较强的智能设计与开发能力、较高的工程组织与管理能力。

The discipline of artificial intelligence is one of the first artificial intelligence disciplines established by the country in 2019. It has a scientific research and teaching team with good professional quality, strong teaching ability, unity and cooperation, and vigorous vitality, including National Ten-Thousand Talents, Chang Jiang Scholars and Winner of the National Science Fund for Distinguished Young Scientists. In recent years, a number of our faculty members act as the principle investigators in more than 40 national-level research programs, such as National Key Research and Development Projects, Key and Major Projects of National Science and Technology Support Plan, Key Projects of National 863 Plan, National Natural Science Foundation of China and other national and provincial projects. Our faculty members have won prizes such as Second-class Prize for the National Science and Technology Progression Award, First-class Prize for the Sichuan Province Science and Technology Progression Award, etc. There is an innovation team in national key fields, named as Innovation Team of Cloud Services Platform Technology. There are two achievements in Eleventh Five-Year' National Science and Technology Exhibition. There are an Eleventh Five-Year' National Planned Textbook and a Twelfth Five-Year' Planning Textbook for Undergraduates of General Higher Education in Sichuan province. A number of important theoretical research results have been achieved, for example, papers are published on top international journals, e.g., AI, IEEE TKDE, IEEE TEC and top international conferences, e.g., ACL, IJCAI, KDD and so on. Some faculty members have been invited to deliver keynotes in international and domestic conferences more than 20 times, and more than 10 international and domestic conferences have been hosted, which have an important academic impact. Meanwhile, it has established close academic exchanges and cooperation with many famous universities, enterprises and research institutes in the world. This discipline focuses on the training of students' artificial intelligence development ability and quality of intelligence. It pays attention to the training of artificial intelligence process methods, so that students have solid foundation, reasonable knowledge structure, strong ability of intelligent design and development, and high ability of engineering

organization and management.

专业代码: 080717T

Program Code: 080717T

专业名称: 人工智能

Program Name: Artificial Intelligence

II. 培养目标 Objectives

本专业旨在培养适应国民经济与科技发展的需求的、德智体美全面发展的、具备扎实的数理与计算机软件基础、人工智能基本理论和专业知识,掌握智能交通信息技术基础知识与方法,能够从事人工智能及相关领域工作的高级工程技术人才。并达到以下具体目标: ①熟悉职业相关的国家法律法规,具有社会 and 职业道德修养; ②针对实际需求,能运用自然科学、工程基础和人工智能专业知识,对复杂智能系统工程问题进行分析研究,能独立完成智能系统方案设计、实现和测试任务; ③具有良好的与业界同行、专业客户和公众沟通交流的能力,以及组织协调和团队合作能力; ④有在工作中继续学习、不断更新知识以适应技术和职业发展需求的能力。

This major aims to cultivate senior engineering technical talents who meet the needs of the development of national economy and science and technology. They should develop morally, intellectually, physically and aesthetically in an all-round way, possess solid foundation of mathematics, physics, computer software, fundamental theories, and professional knowledge of artificial intelligence. They will also master the basic knowledge and methods of intelligent transportation information technology, and be able to work in artificial intelligence and related fields. The following specific objectives should be achieved: (1) being familiar with national laws and regulations related to occupation, and possess social and professional ethics; (2) for practical needs, being able to use expertise of natural science, engineering foundation and artificial intelligence to analyze and study complex intelligent system engineering problems, and being able to independently accomplish the design, implementation and testing tasks of Intelligent Systems; (3) having good communication skills with industry peers, professional customers and the public, as well as capabilities of organizational coordination and teamwork; (4) having the ability to keep learning and updating knowledge in order to meet the needs of technical and professional development.

III. 专业毕业要求 Graduation Requirements

对于本专业的学生,毕业要求包括如下 12 项基本要求:

The graduates are required to meet the following 12 essential requirements:

(1) 工程知识: 掌握从事人工智能专业领域工作所需要的数学、自然科学、工程基础和专业基础知识,并能够运用这些知识解决复杂智能系统工程问题。

(1) Engineering knowledge: Master the knowledge of mathematics, natural science, and engineering fundamentals required for work in the area of artificial intelligence, and be able to use these knowledge to solve complex intelligent system engineering problems.

(2) 问题分析：能够应用数学、自然科学和人工智能科学的基本原理，识别、表达复杂智能系统工程问题，并能通过文献研究分析，获得有效结论。

(2) Problem analysis: Have the ability of applying the fundamental principles of math, natural science and artificial intelligence science to identify, formulate, and analyze complex intelligent system engineering problems, and draw a valid conclusion through literature research.

(3) 设计/开发解决方案：能够设计针对复杂智能系统工程问题的解决方案，开发满足特定需求的智能系统，具有一定的创新意识，并在设计中考考虑社会、健康、安全、法律、文化及环境等因素。

(3) Design/develop of solutions: Have the ability to design solutions for complex intelligent system engineering, and to develop computer systems, units (modules) that meet specified needs with sense of innovation and with appropriate considerations for society, health, safety, law, culture, environment, etc.

(4) 研究：具有基于科学原理并采用科学方法对复杂智能系统工程问题进行研究的能力，包括设计与实施实验、分析与解释数据、并通过信息综合得到合理有效结论。

(4) Research: Have the ability to use science methods to carry on research on complex intelligent system engineering problems based on scientific principles, including designing experiments, analyzing and interpreting data as well as drawing reasonable conclusions from their achieved information.

(5) 使用现代工具：能够选择与使用恰当的技术、资源、开发环境或开发相关工具，对复杂智能系统工程问题进行模拟和预测，并能够分析和理解其局限性。

(5) Modern Tool Usage: Have the ability to select and apply appropriate techniques, resources, development environment and related development tools to predict and simulate complex intelligent system engineering problems, with an understanding of the limitations.

(6) 工程与社会：在复杂智能系统工程问题解决方案的设计和实现中，能够根据具体的工程背景合理分析和评价其对社会、健康、安全、法律以及文化的影响，并理解应承担的责任。

(6) Engineering and society: In the design and implementation of the solutions to complex intelligent system engineering problems, be able to carry out rationality analysis based on relevant engineering background knowledge and evaluate the impacts on the society, health, security, law, culture and environment; have a clear understanding of their responsibilities.

(7) 环境和可持续发展：在复杂智能系统工程问题解决方案的设计、实现过程及智能系统运行中，能够理解和评价其对环境、社会可持续发展的影响。

(7) Environment and sustainable development: In the design, implementation process and system operation of the solutions to complex intelligent system engineering problems, can understand and evaluate some complicated engineering practices' influence on environment and its sustainable development.

(8) 职业规范：具有人文社会科学素养和社会责任感，能够在工程实践中理解并遵守工程职业道德和规范，履行责任。

(8) Occupational norms: Have humanistic and social science literacy as well as social responsibility, understand and comply with engineering professional ethics and norms in engineering practice and fulfill responsibilities.

(9) 个人和团队：具有一定的组织管理能力、团队合作能力，能够在多学科背景下的团队中承担个体、团队成员以及负责人的角色。

(9) Individual and Team work: Have certain organizational management ability, team cooperation ability, and can work as individuals, team members as well as team leaders in the teams with multidisciplinary backgrounds.

(10) 沟通能力：能够就复杂智能系统工程问题与业界同行及社会公众进行有效沟通和交流，包括撰写报告和设计文稿、陈述发言、清晰表达或回应指令，并具有一定的国际视野和跨文化沟通交流能力。

(10) Communication: Can communicate effectively over complex intelligent system engineering problems with both industry peers and the general public, including writing reports, designing documents, giving presentations, clearly presenting or responding to instructions; can see into problems in an international perspective and communicate with people of different cultural backgrounds.

(11) 项目管理：理解并掌握智能系统工程管理原理与经济决策方法，具有在多学科环境中应用的能力。

(11) Project management: Understand and master intelligent system engineering management principles and economic decision-making methods, and be able to apply them in a multidisciplinary environment.

(12) 终身学习：具有自主学习和终身学习的意识，有不断学习和适应发展的能力。

(12) Lifelong learning: Have the consciousness of independent learning and lifelong learning, and the ability of continuous learning and adapting to the development.

毕业要求对培养目标的支撑关系

The Support Relationship of Graduation Requirements for Cultivation Objectives

毕业要求 Graduation requirements	培养目标 Objectives			
	目标 1 Objective 1	目标 2 Objective 2	目标 3 Objective 3	目标 4 Objective 4
毕业要求 1：工程知识 Graduation requirement 1: Engineering knowledge		√		√
毕业要求 2：问题分析 Graduation requirement 2: Problem analysis		√		
毕业要求 3：设计/开发解决方案 Graduation requirement 3: Design/develop solutions		√		
毕业要求 4：研究 Graduation requirement 4: Research		√		√
毕业要求 5：使用现代工具 Graduation requirement 5: Use modern tools		√		

毕业要求 6: 工程与社会 Graduation requirement 6: Engineering and society	√			
毕业要求 7: 环境和可持续发展 Graduation requirement 7: Environment and sustainable development	√			
毕业要求 8: 职业规范 Graduation requirement 8: Occupational norms	√			
毕业要求 9: 个人和团队 Graduation requirement 9: Individuals and teams	√		√	
毕业要求 10: 沟通 Graduation requirement 10: Communication	√		√	
毕业要求 11: 项目管理 Graduation requirement 11: Project management		√	√	
毕业要求 12: 终身学习 Graduation requirement 12: Lifelong learning				√

IV.学制与学位 Duration and Degree

学制：四年

Duration : Four years

学位：工学学士

Degree: Bachelor of Engineering

V.主干学科与主干课程 Main Subject and Main Course

主干学科：人工智能，计算机科学与技术，软件工程

Main Subject: Artificial Intelligence, Computer Science and Technology, Software Engineering

主干课程: 高级语言程序设计，数据结构，算法分析与设计，数据库原理，人工智能，自然语言处理基础，人机交互技术，机器学习，人工智能综合课程设计，大数据分析挖掘，模式识别，自动驾驶。

Main Course: Advanced Programming Language, Data Structure, Algorithmic Analysis and Design, Database Principle, Artificial Intelligence, Natural Language Processing, Human-computer Interaction Techniques, Machine Learning, Artificial Intelligence Integrative Design, Big Data Analysis and Mining, Pattern Recognition, Autopilot.

VI.毕业学分基本要求 Basic Requirements of Credits for Graduation

课程体系 Curriculum System		学分要求 Credits Requirements						
		必修 Compulsory		限修 Distributional Electives		选修 Free Electives		小计
		理论 Theory	实践 Practice	理论 Theory	实践 Practice	理论 Theory	实践 Practice	Subtotal
公共基础课程 Public Basic Courses	思想政治类 Ideological Politics Courses	15	2					17
	军事类 Military Courses	2	2					4

	外语类 Foreign Language Courses	6		2				8
	体育类 Physical Education Courses		4					4
通识教育课程 General Education Courses	核心通识课 Core General Education Courses			4				4
	新生研讨课 Freshman Seminar	2						2
学科与专业基础课程 Discipline and Specialty Foundational Courses	数学与自然科学基础课 Foundational Courses on Mathematics and Natural Science	30	2					32
	专业基础课 Professional Basic Courses	37.5	9.5					47
专业课程 Professional Courses	专业核心课程 Professional Core Course	6	5					11
	专业限修课程 Professional Restricted Courses			6				6
实习实践教学 Practice Courses	基本技能训练、实习实训、综合课程设计、社会与文化素质实践、毕业实习与毕业设计 Basic Skills Training, Practical Training, Integrated Curriculum Design, Social and Cultural Quality Practice, Graduation Internship and Graduation Design		19					19
多元化课程 Diversified Courses	跨学科课程、美育专业类课程、学科竞赛类课程、其它个性化选修课程等 Interdisciplinary Courses, Aesthetic Education Courses, Subject Competition Courses, other Personalized Elective Courses, etc.			4				4
创新创业实践 Innovation and Entrepreneurship Practice	创新创业训练计划项目、个性化实验、学科竞赛、创新讲座等 Innovation and Entrepreneurship Training Program, Personalized Experiments, Subject Competition, Innovation Lectures, etc.		2					2

必修环节 A Compulsory Part	大学生综合素质提升、学生体质达标测评 Comprehensive Quality Improvement Courses for College Students, Assessment of Students' Physical Fitness							0
总 计 Total								160

VII.课程设置细化表 Course Programs Table

公共基础课程 Public Basic Courses 共 33 学分，其中必修 31 学分，限修 2 学分，选修 0 学分 A total credits of 33, including 31 for compulsory courses, 2 for distributional electives and 0 for free electives								
课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	总学分 Credits	课内实践学分 In-class Practice Credits	开课学期 Semester	开课学院 School	支撑毕业要求指标点 Indicators which Support Graduation Requirements	备注 Notes
思想政治类 Ideological Politics Courses	思想道德与法治 Ideological and Moral Education and the Rule of Law	必修 Compulsory	3	0.4	第 1 学期 1St Semester	马克思主义学院 School of Marxism	6, 7, 8	
	中国近现代史纲要 Conspectus of Chinese Modern History	必修 Compulsory	3	0.4	第 2 学期 2Nd Semester	马克思主义学院 School of Marxism	7, 8	
	马克思主义基本原理 The Basic Principles of Marxism	必修 Compulsory	3	0.4	第 3 学期 3Rd Semester	马克思主义学院 School of Marxism	8	
	毛泽东思想和中国特色社会主义理论体系概论 Introduction to Mao Zedong Thought and Theoretical System of Socialism with Chinese Characteristics	必修 Compulsory	3	0.4	第 5 学期 5Th Semester	马克思主义学院 School of Marxism	6, 7, 8	
	习近平新时代中国特色社会主义思想概论 Outline of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	必修 Compulsory	3	0.4	第 6 学期 6Th Semester	马克思主义学院 School of Marxism	6, 7, 8	
	形势与政策 I Situation and Policy I	必修 Compulsory	0	0	第 1 学期 1St Semester	马克思主义学院 School of Marxism	6, 7, 8	
	形势与政策 II Situation and Policy II	必修 Compulsory	0	0	第 2 学期 2Nd Semester	马克思主义学院 School of Marxism		

思想政治类 Ideological Politics Courses	形势与政策III Situation and Policy III	必修 Compulsory	0	0	第3学期 3Rd Semester	马克思主义学院 School of Marxism	6, 7, 8	
	形势与政策IV Situation and Policy IV	必修 Compulsory	0	0	第4学期 4Th Semester	马克思主义学院 School of Marxism		
	形势与政策V Situation and Policy V	必修 Compulsory	0	0	第5学期 5Th Semester	马克思主义学院 School of Marxism		
	形势与政策VI Situation and Policy VI	必修 Compulsory	0	0	第6学期 6Th Semester	马克思主义学院 School of Marxism		
	形势与政策VII Situation and Policy VII	必修 Compulsory	0	0	第7学期 7Th Semester	马克思主义学院 School of Marxism		
	形势与政策VIII Situation and Policy VIII	必修 Compulsory	2	0	第8学期 8Th Semester	马克思主义学院 School of Marxism		
军事类 Military Courses	军事理论 Military Theories	必修 Compulsory	2	0	第1学期 1St Semester	武装部 Security Office	9	
	军事技能 Military Skills	必修 Compulsory	2	2	短1学期 Short Semester 1	武装部 Security Office	9	
外语类 Foreign Language Courses	英语 I College English I	必修 Compulsory	2	0	第1学期 1St Semester	外国语学院 School of Foreign Languages	10	
	英语 II College English II	必修 Compulsory	2	0	第2学期 2Nd Semester	外国语学院 School of Foreign Languages	10	
	通用学术英语 English for General Academic Purposes	必修 Compulsory	2	0	第3学期 3Rd Semester	外国语学院 School of Foreign Languages	10	
	职场英语 Workplace English	限修 Distributional Elective	2	0	第4学期 4Th Semester	外国语学院 School of Foreign Languages	10	限选1 门, 2学分 Limited to 1 course, 2 credits
	交际与文化视听说 Viewing, Listening & Speaking in English -- Communication & Culture							
	语言、文化与翻译 Language, Culture and Translation							
	英语公共演讲 Public Speaking in English							
体育类 Physical Education Courses	体育 I Physical Education I	必修 Compulsory	1	1	第1学期 1St Semester	体育部 Dept. of Physical Education	9	
	体育 II Physical Education II	必修 Compulsory	1	1	第2学期 2Nd Semester	体育部 Dept. of Physical Education		

体育类 Physical Education Courses	体育Ⅲ Physical Education III	必修 Compulsory	0.5	0.5	第 3 学 期 3Rd Semester	体育部 Dept. of Physical Education	6	
	体育Ⅳ Physical Education IV	必修 Compulsory	0.5	0.5	第 4 学 期 4Th Semester	体育部 Dept. of Physical Education		
	体育健康课程 I Diversified Physical Education Courses I	必修 Compulsory	0.5	0.5	第 5 学 期 5Th Semester	体育部 Dept. of Physical Education		
	体育健康课程 II Diversified Physical Education Courses II	必修 Compulsory	0.5	0.5	第 6 学 期 6Th Semester	体育部 Dept. of Physical Education		
通识教育课程 General Education Courses 共 6 学分，其中必修 2 学分，限修 4 学分，选修 0 学分 A total credits of 6, including 2 for compulsory courses, 4 for distributional electives and 0 for free electives								
课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	总学分 Credits	课内实 践学分 In-class practice credits	开课学 期 Semeste r	开课学院 School	支撑毕业 要求指标 点 Indicators which Support Graduatio n Requireme nts	备注 Notes
核心通识课 Core General Education	“交通天下”通识课程 General Studies on Transportation	限修 Distributional Elective	4		2-8 学期 2-8 Semester	全校 The whole school	6	
新生研讨课 Freshman Seminar	人工智能前沿导论 Introduction to the Frontier of Artificial Intelligence	必修 Compulsory	2		第 1 学 期 1St Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	8, 9, 10, 12	
学科与专业基础课程 Discipline and Specialty foundational Courses 共 79 学分，其中必修 79 学分，限修 0 学分，选修 0 学分 A total credits of 79, including 79 for compulsory courses, 0 for distributional electives and 0 for free electives								
课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	总学分 Credits	课内实 践学分 In-class practice credits	开课学 期 Semeste r	开课学院 School	支撑毕业 要求指标 点 Indicators which Support Graduatio n Requireme nts	备注 Notes
数学与自然科学基础课 Foundational Courses on Mathematics and Natural Science	高等数学 I Advanced Mathematics I	必修 Compulsory	5		第 1 学 期 1St Semester	数学学院 School of Mathemati cs	1	
	线性代数 B Linear Algebra B	必修 Compulsory	3		第 1 学 期 1St Semester	数学学院 School of Mathemati cs	1, 4	
	高等数学 II Advanced Mathematics II	必修 Compulsory	5		第 2 学 期 2Nd Semester	数学学院 School of Mathemati cs	1	

数学与自然科学基础课 Foundational Courses on Mathematics and Natural Science	离散数学 Discrete Mathematics	必修 Compulsory	4		第 2 学期 2Nd Semester	计算机与人工智能学院 School of Computing and Artificial Intelligence	1	
	概率论与数理统计 Probability Theory and Mathematical Statistics	必修 Compulsory	3		第 3 学期 3Rd Semester	数学学院 School of Mathematics	1, 4	
	大学物理 BI College Physics BI	必修 Compulsory	3		第 2 学期 2Nd Semester	物理科学与技术学院 School of Physics	1	
	大学物理 BII college physics BII	必修 Compulsory	3		第 3 学期 3Rd Semester	物理科学与技术学院 School of Physics	4	
	大学物理实验 I College Physics Experiment I	必修 Compulsory	1	1	第 2 学期 2Nd Semester	物理科学与技术学院 School of Physics	1	
	大学物理实验 II College Physics Experiment II	必修 Compulsory	1	1	第 3 学期 3Rd Semester	物理科学与技术学院 School of Physics	4	
	数学建模 Mathematical Modeling	必修 Compulsory	2		第 7 学期 5Th Semester	数学学院 School of Mathematics	1, 4	
	矩阵分析 Matrix Analysis	必修 Compulsory	2		第 5 学期 5Th Semester	数学学院 School of Mathematics	1, 4	
专业基础课 Professional Foundational Courses	高级语言程序设计※ Advanced Programming Language※	必修 Compulsory	4	0.5	第 1 学期 1St Semester	计算机与人工智能学院 School of Computing and Artificial Intelligence	1, 2, 3, 5	
	面向对象程序设计 Object Oriented Programming Language	必修 Compulsory	2		第 2 学期 2Nd Semester	计算机与人工智能学院 School of Computing and Artificial Intelligence	1, 3, 5	
	数字电子技术 B Digital Electronic Technique B	必修 Compulsory	3		第 3 学期 3Rd Semester	信息科学与技术学院 School of Information Science and Technology	1, 2	

专业基础课 Professional Foundational Courses	数字电子技术实验 Digital Electronic Technology Experiments	必修 Compulsory	1	1	第 3 学 期 3Rd Semester	信息科学 与技术学 院 School of Informatio n Science and Technolog y	4, 5	
	数据结构 A※ Data Structure※	必修 Compulsory	4		第 3 学 期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 2, 3	
	数据结构实验※ Data Structure Experiments※	必修 Compulsory	1	1	第 3 学 期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 4	
	计算机组成原理 B Architecture of Computer	必修 Compulsory	3		第 4 学 期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 2, 3	
	计算机组成实验 Architecture of Computer Experiments	必修 Compulsory	1	1	第 4 学 期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 3, 5	
	算法分析与设计 B※ Algorithms Analysis and Design※	必修 Compulsory	2		第 4 学 期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 3	
	算法分析与设计实验 ※ Algorithm Analysis and Design Experiments	必修 Compulsory	1	1	第 4 学 期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	4	

专业基础课 Professional Foundational Courses	数据库原理※ Database Principle※	必修 Compulsory	3		第 4 学期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 2	
	数据库原理实验※ Database Principle Experiment※	必修 Compulsory	1	1	第 4 学期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 3, 5	
	操作系统* Operating System*	必修 Compulsory	3		第 4 学期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 2, 10	
	操作系统实验 Operating System Experiment	必修 Compulsory	1	1	第 4 学期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	4, 5	
	人工智能数学基础 Mathematical Foundation of Artificial Intelligence	必修 Compulsory	3		第 4 学期 4Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 2, 4	
	数字信号处理 A Digital Signal Processing A	必修 Compulsory	3		第 5 学期 5Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 3, 5	
	人工智能※ Artificial Intelligence※	必修 Compulsory	2		第 5 学期 5Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	4, 5, 12	

专业基础课 Professional Foundational Courses	计算机网络 Computer Network	必修 Compulsory	3		第 5 学期 5Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 2	
	计算机网络工程实验 Computer Network Engineering Experiment	必修 Compulsory	1	1	第 5 学期 5Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 3, 10	
	微机与接口技术 A Microcomputer and Interface Technology	必修 Compulsory	4		第 5 学期 5Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 2, 3, 10	
	微机与接口技术实验 Microcomputer and Interface Technology Experiments	必修 Compulsory	1	1	第 5 学期 5Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 3, 5	
专业课程 Specialized Courses 共 17 学分，其中必修 11 学分，限修 6 学分，选修 0 学分 A total credits of 17, including 11 for compulsory courses, 6 for distributional electives and 0 for free electives								
课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	总学分 Credits	课内实 践学分 In-class practice credits	开课学 期 Semeste r	开课学院 School	支撑毕业 要求指标 点 Indicators which Support Graduatio n Requireme nts	备注 Notes
专业核心课程 Specialized Core Courses	自然语言处理基础※ Basic Natural Language Processing※	必修 Compulsory	2		第 6 学期 6Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	4, 5, 12	
	人机交互技术※ Human-computer Interaction Techniques※	必修 Compulsory	2		第 7 学期 7Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	1, 3, 12	

专业核心课程 Specialized Core Courses		人机交互技术实验※ Human Computer Interaction Technology Experiment※	必修 Compulsory	1	1	第 7 学 期 7Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 3	
		机器学习 B※ Machine Learning※	必修 Compulsory	2		第 6 学 期 6Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	4, 5, 12	
		机器学习实验※ Machine Learning Experiment※	必修 Compulsory	1	1	第 6 学 期 6Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 3	
		人工智能综合课程设计※ Artificial Intelligence Integrative Design※	必修 Compulsory	3	3	第 7 学 期 7Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 3, 5	
专业限修 课程 Specialized Restricted Courses	智能信息 处理 方向	数据挖掘※ Data Mining※	限修 Distributional electives	2		第 7 学 期 7Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	4, 5, 12	2 个方向限 修 1 个 Choose 1 from 2 directions
		云计算与并行技术 Cloud Computing and Parallel Technologies	限修 Distributional electives	2		第 7 学 期 7Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	4, 5, 12	
		大数据可视化 Big Data Visualization	限修 Distributional electives	2		第 6 学 期 6Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	4, 5, 12	

专业限修课程 Specialized Restricted Courses	智能控制与机器人方向	智能控制 Intelligent Control	限修 Distributional electives	2		第 6 学期 6Th Semester	计算机与人工智能学院 School of Computing and Artificial Intelligence	4, 5, 12	2 个方向限修 1 个 Choose 1 from 2 directions
		自动驾驶※ Autopilot※	限修 Distributional electives	2		第 7 学期 7Th Semester	计算机与人工智能学院 School of Computing and Artificial Intelligence	4, 5, 12	
		机器人技术 Robotics	限修 Distributional electives	2		第 7 学期 7Th Semester	计算机与人工智能学院 School of Computing and Artificial Intelligence	4, 5, 12	
实习实践教学 Practice Course 共 19 学分，其中必修 19 学分，限修 0 学分，选修 0 学分 A total credits of 19, including 19 for compulsory courses, 0 for distributional electives and 0 for free electives									
课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	总学分 Credits	课内实践学分 In-class practice credits	开课学期 Semester	开课学院 School	支撑毕业要求指标点 Indicators which Support Graduation Requirements	备注 Notes	
基本技能训练、实习实训、综合课程设计、社会与文化素质实践、毕业实习与毕业设计 Basic Skills Training, Practical Training, Integrated Curriculum Design, Social and Cultural Quality Practice, Graduation Internship and Graduation Design	人工智能基础设计实习 Artificial Intelligence Foundation Design Internship	必修 Compulsory	2	2	短 1 学期 Short Semester 1	计算机与人工智能学院 School of Computing and Artificial Intelligence	1, 5, 7, 8		
	人工智能/智能综合设计实习 Artificial Intelligence/Intelligent Integrated Design Internship	必修 Compulsory	2	2	短 2 学期 Short Semester 2	计算机与人工智能学院 School of Computing and Artificial Intelligence	3, 5, 6, 7, 8, 11		
	人工智能专业工程实习 Discipline Oriented Engineering Internship of Artificial Intelligence	必修 Compulsory	2	2	短 3 学期 Short Semester 3	计算机与人工智能学院 School of Computing and Artificial Intelligence	3, 6, 7, 9, 11		

	毕业设计 A Graduation Design A	必修 Compulsory	13	13	第 8 学 期 8Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 3, 4, 5, 6, 7, 10, 11, 12	
多元化课程 Diversified course 共 4 学分，其中必修 0 学分，限修 4 学分，选修 0 学分 A total credits of 4, including 0 for compulsory courses, 4 for distributional electives and 0 for free electives								
课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	总学分 Credits	课内实 践学分 In-class practice credits	开课学 期 Semeste r	开课学院 School	支撑毕业 要求指标 点 Indicators which Support Graduatio n Requireme nts	备注 Notes
跨学科课程 Interdisciplina ry Courses	智能+交通 Intelligence+Transportation	限修 4 学分 Distributional electives 4 credits	2		第 6 学 期 6Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 6, 9, 12	按照《西南交通大学多元化课程修读指导手册》执行 Follow the《Instruction manual of diversified courses of southwest Jiaotong University》. 限修 4 学分。
	区块链技术及应用 BlockChain Technology and Application		2		第 6 学 期 6Th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 6, 9, 12	
	从代码到实物：造你所想 From Codes to Things, Making What You Thinking		2		第 6 学 期 6th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 6, 9, 12	
	现代铁路信息技术 Information Technology for Modern Railway		2		第 6 学 期 6th Semester	计算机与 人工智能 学院 School of Computin g and Artificial Intelligenc e	2, 6, 9, 12	
创新创业实践 Innovation and Entrepreneurship Practice 共 2 学分，其中必修 2 学分，限修 0 学分，选修 0 学分 A total credits of 2, including 2 for compulsory courses, 0 for distributional electives and 0 for free electives								

课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	总学分 Credits	课内实践学分 In-class practice credits	开课学期 Semester	开课学院 School	支撑毕业要求指标点 Indicators which Support Graduation Requirements	备注 Notes
创新创业训练计划项目、个性化实验、学科竞赛、创新讲座等 Innovation and Entrepreneurship Training Program, Personalized Experiments, Subject Competition, Innovation Lectures, etc	课外创新实践 Extracurricular Innovation Practice	必修 Compulsory	2	2	3-7 学期 3-7 Semester	计算机与人工智能学院 School of Computing and Artificial Intelligence	9	按照《西南交通大学创新实践学分认定与管理办法》规定修习 Study in accordance with the Regulations on Credit Recognition and Management of Innovation Practice in Southwest Jiaotong University
必修环节 A compulsory part 共 0 学分，其中必修 0 学分，限修 0 学分，选修 0 学分 A total credits of 0, including 0 for compulsory courses, 0 for distributional electives and 0 for free electives								
课程类型 Course Type	课程名称 Course Name	课程性质 Nature of Course	总学分 Credits	课内实践学分 In-class practice credits	开课学期 Semester	开课学院 School	支撑毕业要求指标点 Indicators which Support Graduation Requirements	备注 Notes
大学生综合素质提升、学生体质达标测评 Comprehensive Quality Improvement Courses for College Students, Assessment of Students' Physical Fitness	大学生综合素质提升（第二、第三课堂） Comprehensive Quality Improvement Courses for College Students (The Second and Third Classroom)	必修 Compulsory	0	0	1-8 学期 1-8 Semester	校团委 Communist Youth League Committee	6, 8	
	学生体质达标测评 Assessment of Students' Physical Fitness	必修 Compulsory	0	0	秋季学期 fall Semester	体育部 Dept. of Physical Education	6	
学分总计 Total Credits			160					

【注】 ① 未通过四级必须选英语Ⅲ。 ②※为核心课程，*为双语课程。